

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Homework 30 Form A

Solve Quadratic Equations -Review

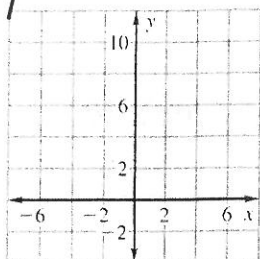
Name: _____
Period: _____ Date: _____

Solve the equation by graphing. How many solutions are there? Label the **vertex** and **axis of symmetry**!

1) $x^2 - 6x + 9 = 0$

$$\frac{-b}{2a} =$$

y =

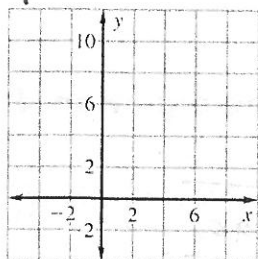


x	y
1	
2	
3	
4	
5	

2) $x^2 - 7x + 10 = 0$

$$\frac{-b}{2a} =$$

y =



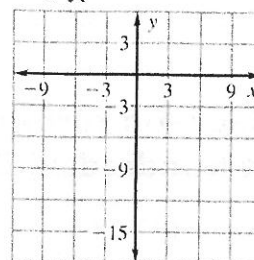
x	y
1	
2	
3	
4	
5	

3) $-x^2 + 9x = 18$

$$-18 - 18$$

$$-x^2 + 9x - 18 = 0$$

$$\frac{-b}{2a} =$$



x	y
1	
2	
3	
4	
5	
6	
7	

4) What is the sum of the two values that satisfy the equation below?

$$k^2 + 6k = 0$$

5) Solve the quadratic equation by factoring:

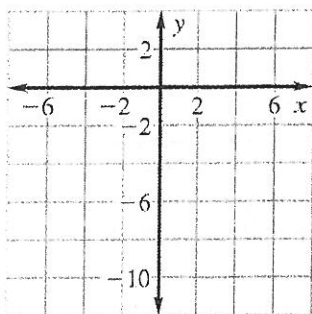
$$x^2 = 9x - 18$$

6) Find the zeros of the polynomial function:

$$f(x) = 10x^2 + 5x - 5$$

7) Find the zeros of the functions by graphing.

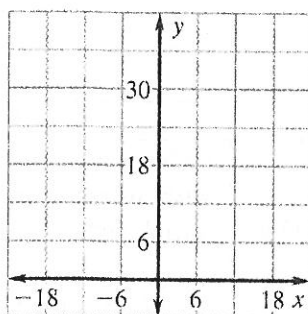
$$f(x) = -x^2 - 5x - 10$$



x = { , }

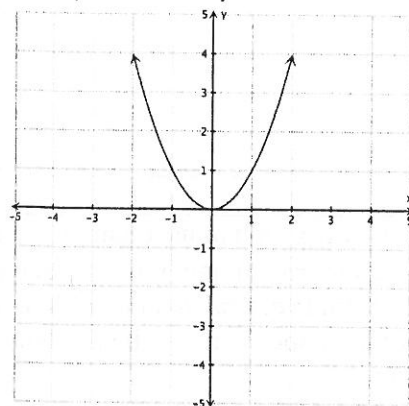
8) Find the zeros of the functions by graphing.

$$f(x) = x^2 + 12x + 36$$



x = { , }

9) The graph $y = x^2$ is shown below. How many solutions does this quadratic equation have?



- A. 0
- B. 1
- C. 2
- D. 3

Use square roots.

Solve the equation. Round the solutions to the nearest hundredth.

10. $x^2 + 15 = 23$
 $-15 \quad -15$
 $x^2 =$

11. $x^2 - 16 = -13$

12. $12 - x^2 = 17$

Use the quadratic formula to solve the equation. Round your solutions to the nearest hundredth, if necessary.

1. $x^2 + 7x - 80 = 0$

$a =$
 $b =$
 $c =$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

2. $3x^2 - x - 16 = 0$

$a =$
 $b =$
 $c =$

Name the quadratic equation given the solution set.

3. $\{-8, 5\}$

4. $\{-3, 3\}$

5. $\{-5, -9\}$

7) You throw a wad of used paper towards a wastebasket from a height of **1.3** feet above the floor with an initial vertical velocity of **3** feet per second. The flight of the paper wad can be modeled with the function $h(t) = -16t^2 + 3t + 1.3$, where h represents the height (in feet) of the paper wad after t seconds after it was thrown. If you miss the wastebasket and the paper hits the floor, how long does it take for the paper to reach the floor?

8) During a cliff dive competition, a diver begins a dive with his center of gravity 70 feet above the water. The initial vertical velocity of his dive is 8 feet per second.

a. Write an equation that models the height h (in feet) of the divers center of gravity as a function of time (seconds)

$h(t) = -16t^2 + \underline{\hspace{1cm}}t + \underline{\hspace{1cm}}$

b. How long after the diver begins his dive does his center of gravity reach the water?